

IN THE UNITED STATES BANKRUPTCY COURT  
FOR THE DISTRICT OF DELAWARE

In re:

W.R. GRACE & CO., *et al.*

Debtors.

Chapter 11

Civil Action No. 01-01139 (JKF)

Jointly Administered

**DECLARATION OF ROBERT M. TOEDTER, PE  
IN SUPPORT OF NEUTOCRETE'S RESPONSE  
TO W.R. GRACE'S OBJECTION TO CLAIMS**

**I, Robert M. Toedter, PE, pursuant to 28 U.S.C. § 1746, declare as follows:**

1. I am over the age of eighteen. I make this declaration based on my own personal and professional knowledge. If called as a witness, I could and would testify competently to the matters set forth herein.

2. I submit this affidavit in an effort to put a number of facts before the Court. I understand that I likely will prepare an expert report and be deposed as part of my participation in this matter. I expect that there will be additional information and detail that I will be able to provide in the course of such events.

3. I am an industry consultant for the design of cementitious mixtures and the related material manufacturing operations.

4. I have over thirty-five (35) years experience in the mining, manufacturing and processing of cementitious materials and aggregates. Further, I was the Director of Engineering and Capital Development for an international company that produced cementitious materials, and am now principal engineer of a company specializing in

providing consultation services and engineering to the Portland cement, aggregates, block and paver manufacturing industries.

5. In these roles, I have been responsible for both the development and use of a variety of cementitious products and systems, including light-weight concrete applications.

6. I was hired by Neutocrete Systems, Inc. to investigate the alleged deficiencies of the W.R. Grace packaged Neutocrete pre-mixed Vermiculite, Portland cement, and additive constituents that are the subject of Claim Numbers 8378, 8379, and 8380 pending before this Court (D.I. 22218).

7. At the Neutocrete facilities in Danbury, CT, I personally inspected several bags of the W.R. Grace prepared Neutocrete Products mix, several bags of the new cementitious mix being utilized by Neutocrete Systems, Inc., and one bag of Thermo-O-Rock #3 (Medium) Vermiculite.

8. The specifications agreed to by W.R. Grace in Exhibit "A" of the Long Term Agreement (Attached hereto as Exhibit No. 1) called for two (2) cubic feet of Zonolite #4 Vermiculite and thirty (30) pounds of Portland Type I or II cement, plus a W.R. Grace proprietary powdered admixture of less than two (2) ounces in every "Bag".

9. No "Bag" size or specifications are provided in the Long Term Agreement (hereinafter referred to as "LTA"). W.R. Grace was solely responsible to select nominal bag sizes, constituent blending, and mix packing methods to comply with the specifications of the LTA.

10. I personally inspected the contents of the bagged mixtures received from W.R. Grace, and found their product to be non-conforming to the specifications of the

LTA and to the expectations of Neutocrete Systems, Inc., based upon past practices and material composition of which W.R. Grace was well aware.

11. The weight and volumetric bag sizes, provided by W.R. Grace, were insufficient to contain the specified formula for Neutocrete Systems, Inc. as outlined in the LTA.

12. I have reviewed the claims made by Neutocrete Systems, Inc, FTF Crawlspace Specialists and Neutocrete Products, Inc. (hereinafter referred to as “NSI et al”) against W.R. Grace referenced in the matter captioned above, and I have reviewed W.R. Grace’s objections to NSI et al claims.

13. In my opinion, the claimant has legitimate claims against W.R. Grace with respect to mixture composition, material quantity delivery, and material performance.

14. It is not possible to package the LTA specified two (2) cubic feet of Zonolite #4 Vermiculite and 30 lbs of Portland Cement (approximately 0.32 cubic feet) into any bag with a size less than two (2) cubic feet.

15. Field measurements of a “full” Neutocrete mix bag demonstrated that the approximate size of the bag to be a maximum 16” wide x 27” long x 6” thick, which equates to a volumetric capacity of approximately 1.5 cubic feet.

16. The specified W.R. Grace mix, in accordance with the LTA, would require a “bag” having a volumetric capacity of no less than 2.32 cubic feet.

17. The W.R. Grace provided “bag” has a maximum capacity of approximately 1.5 cubic feet.

18. On a volumetric basis, a bag containing 1.5 cubic feet of the LTA specified mix would weigh only twenty-eight pounds (28 lbs).

19. The LTA specifies that W.R. Grace will provide two (2) cubic feet of Zonolite #4 Vermiculite. W.R. Grace's specification sheet (attached hereto as Exhibit No. 2) indicates the bulk weight of Zonolite #4 Vermiculite to be 7 pounds per cubic foot (7.0 pcf).

20. Neutocrete Systems, Inc. claims the weight of the bags received from W.R. Grace averaged 42 pounds per bag. I personally verified the weight of several bags supplied by W.R. Grace to be approximately forty-two (42) pounds.

21. On a "weight basis", the bag weight of a constituent mix, conforming to the LTA mix specifications by volume, must be no less than 44 pounds (i.e. 30 lbs of Portland cement and 2 cubic feet of Zonolite #4 Vermiculite at 7.0 pcf = 44 lbs). Even on a per bag "weight basis", W.R. Grace could not contractually be providing NSI et al with the required material.

22. Furthermore, W.R. Grace was not entitled to unilaterally modify the terms and conditions of the LTA by using a weight basis packing system. The terms of the LTA clearly required each bag to contain 2.0 cubic feet of Zonolite #4 Vermiculite. W.R. Grace's packing practice was the cause for NSI et al to underestimate material quantities and labor for each project, and resulting in W.R. Grace selling additional material to NSI et al, so that NSI et al could properly complete each project.

23. The W.R. Grace packaged mixes were under-volume by approximately 35% (i.e.  $100 \times [2.32 - 1.5] / 2.32 = 35\%$ ) causing NSI et al to underestimate the quantity of material required for each application and, therefore, unexpectedly increasing the cost of each job in both labor and materials to NSI et al. This deficiency served to benefit W.R. Grace, as NSI et al was required to purchase more product from W.R. Grace than should have been required to complete each project.

24. As NSI et al was receiving less product than specified by the LTA, either by volume or by weight measure, NSI et al was unwittingly applying too much water to the mix on a per bag basis.

25. Excess water in cementitious mixes causes loss of durability, loss of strength, and increased cracking, which are all symptoms of the failed applications noted by NSI et al in their claims against W.R. Grace.

26. As each 1.5 cubic foot bag, packaged by W.R. Grace, contained approximately 42 lbs of the mixed constituents, it is concluded that W.R. Grace altered the physical volumetric characteristics of the vermiculite during handling, mixing, blending, conveying and/or packing, which resulted in an increase in bulk density from that which is stated in W.R. Grace's Zonolite #4 Vermiculite specifications (see attached copies of W.R. Grace Zonolite-Vermiculite and Zonolite specifications – Exhibits No. 2 and 3).

27. The altered volumetric characteristics allowed W.R. Grace to package 42 lbs of the mix constituents into a 1.5 cubic foot bag, violating the requirements of the LTA in that 2.0 cubic feet of Zonolite Vermiculite and 30 lbs of Portland Cement could not and were not provided in a "bag" of the pre-mixed product.

28. Prior to commencing use of the W.R. Grace mix with its proprietary Zonolite #4 Vermiculite, and after terminating the use of the aforementioned mix; NSI et al did not have problems in durability, strength and/or cracking of their installed product.

29. W.R. Grace recommended to and packaged for NSI et al their Zonolite #4 Vermiculite with Portland cement and their proprietary additive(s). Zonolite #4 Vermiculite is a very fine material as compared with vermiculite that NSI et al received from other suppliers both before and after the relationship with W.R. Grace, and is the

only difference between the materials supplied before and after NSI et al's relationship with W.R. Grace and NSI et al's material preparation and application procedures.

30. Vermiculite is an expanded Phyllosilicate (hydrated magnesium aluminum silicate – resembling mica), which has weak silicate layers subject to flaking. The W.R. Grace Zonolite #4 Vermiculite is substantially finer than any other vermiculite product previously or subsequently utilized by NSI et al, and its increased available surface area per unit volume, as compared to the vermiculite constituents used by NSI et al prior to and after their relationship with W.R. Grace, exposes more of these weak layers to the bonding cement paste, thereby significantly weakening the hydrated mix. The result is reflected in loss of strength and durability, and increased susceptibility to cracking.

31. Zonolite #4 Vermiculite has the characteristic of absorbing as much as 429% by weight of water (see attached W.R. Grace Zonolite-Vermiculite Absorption Properties – Exhibit No. 2). This has the effect of “locally” retaining excess water at or near the cement-vermiculite interface, which subsequently results in the formation of extraordinarily weak bonds between the cement and vermiculite. This condition compounds the excessive presentation of weak aggregate surfaces in the mix, and further weakens the cured product. The result is reflected in additional loss of strength and durability, and increased susceptibility to cracking.

32. I can therefore attest and affirm that the bags of pre-mixed product, provided by W.R. Grace, did not conform to the mixture specifications in the LTA, as offered to Neutocrete Systems, Inc. by W.R. Grace, and the material selection by W.R. Grace of Zonolite #4 Vermiculite was the root cause of the failure of approximately 30% (as of the date of this declaration) of the over 1,500 installations performed by NSI et al.

I declare under the penalty of perjury that the foregoing is true and correct.

Executed on July 15, 2010.

A handwritten signature in black ink, reading "Robert M. Toedter". The signature is written in a cursive style with a large, stylized 'R' and 'T'.

Robert M. Toedter, PE